Maryland Historical Trust

Maryland Inventory of Historic Properties number: BA-2780

Name: Yellow Sulphur Springs Rd.

The bridge referenced herein was inventoried by the Maryland State Highway Administration as part of the Historic Bridge Inventory, and SHA provided the Trust with eligibility determinations in February 2001. The Trust accepted the Historic Bridge Inventory on April 3, 2001. The bridge received the following determination of eligibility.

MARYLAND HISTORICAL TRUST

Eligibility Recommended _____ Eligibility Not Recommended __X____

Criteria: ____A ____B __X__C ____D Considerations: ___A ___B ___C ___D ___E ___F ___G __None

Comments:_____

_____

_____

Reviewer, OPS: Anne E. Bruder Date: 3 April 2001

Reviewer, NR Program: Peter E. Kurtze Date: 3 April 2001

MARYLAND INVENTORY OF HISTORIC BRIDGES **MHT No.** BA-2780
HISTORIC BRIDGE INVENTORY
MARYLAND STATE HIGHWAY ADMINISTRATION/
MARYLAND HISTORICAL TRUST

SHA Bridge No. 3005 **Bridge name** US 1 over Sulphur Springs Road

LOCATION:
Street/Road name and number [facility carried] US 1 (Southwestern Boulevard)

City/town Halethorpe **Vicinity** X

County Baltimore

This bridge projects over: Road X **Railway** _____ **Water** _____ **Land** ____

Ownership: State X **County** _____ **Municipal** _____ **Other** _____

HISTORIC STATUS:
Is the bridge located within a designated historic district? Yes _____ **No** X
National Register-listed district ____ **National Register-determined-eligible district** __
Locally-designated district _____ **Other** _____

Name of district _____

BRIDGE TYPE:
Timber Bridge _____:
Beam Bridge _____ **Truss -Covered** ___ **Trestle** ____ **Timber-And-Concrete** ___

Stone Arch Bridge _____

Metal Truss Bridge _____

Movable Bridge _____:
Swing _____ **Bascule Single Leaf** __ **Bascule Multiple Leaf** _____
Vertical Lift _____ **Retractile** _____ **Pontoon** _____

Metal Girder X:
Rolled Girder X **Rolled Girder Concrete Encased** _____
Plate Girder _____ **Plate Girder Concrete Encased** _____

Metal Suspension _____

Metal Arch _____

Metal Cantilever _____

Concrete _____:
Concrete Arch _____ **Concrete Slab** _____ **Concrete Beam** ____ **Rigid Frame** _____
Other _____ **Type Name** _____

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DESCRIPTION:
Setting: Urban ____X____ **Small town** _____ **Rural** _____

Describe Setting:

Bridge No. 3005 carries US 1 (Southwestern Boulevard) over Sulphur Springs Road in Baltimore County. US 1 runs north-south and Sulphur Springs Road runs east-west. The bridge is located in the vicinity of Halethorpe, and is surrounded by commercial development.

Describe Superstructure and Substructure:

Bridge No. 3005 is a 1-span, 2-lane, metal girder bridge. The bridge was originally built in 1947, and the parapets were replaced in 1978. The structure is 69 feet long and has a clear roadway width of 44 feet; there are two (2) sidewalks measuring 5 feet wide. The out-to-out width is 54 feet. The superstructure consists of fourteen (14) rolled girders which support a concrete deck and modern concrete parapets with a pedestrian barrier. The girders are 11 inches x 37 inches and are spaced approximately 6 feet apart. The roadway is carried on the girders. The concrete deck is 10 inches thick, and it has a bituminous wearing surface. The structure has modern concrete parapets supporting a metal, pedestrian barrier. The roadway approaches are tangent and level with the bridge. The substructure consists of two (2) concrete abutments. There are four (4) straight, concrete wing walls, and the bridge has a sufficiency rating of 78.5.

According to the 1996 inspection report, this structure is in fair condition with minor section loss, cracking, spalling, and scour. The asphalt wearing surface has several patches and irregular cracking. The concrete has vertical and irregular cracking in the abutments and wing walls. The south abutment has a large spall at the top with exposed reinforcing bars. The I-beams all have peeling paint and areas of moderate rust. Beams 7 and 8 have heavy rust, scale, and pitting. The fixed bearings have heavy rust with some scale, pitting, and section loss. The concrete parapet is in good condition, but has fine vertical cracking.

Discuss Major Alterations:

Reconstruction plans of the bridge from 1978 indicate that the bridge originally had solid panel parapets, which were removed and replaced with modern concrete parapets with a pedestrian barrier in 1978.

HISTORY:

WHEN was the bridge built: 1947
This date is: Actual _____X_____ **Estimated** _____
Source of date: Plaque _____ **Design plans** ____ **County Bridge Files/Inspection form** ___
Other (specify): State Highway Administration bridge files/inspection form

WHY was the bridge built?

The bridge was constructed in response to the need for more efficient transportation network and increased load capacity.

WHO was the designer?

State Roads Commission

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WHO was the builder?

Unknown

WHY was the bridge altered?

The bridge was altered to correct functional or structural deficiencies.

Was this bridge built as part of an organized bridge-building campaign?

There is no evidence that the bridge was built as part of an organized bridge building campaign.

SURVEYOR/HISTORIAN ANALYSIS:

This bridge may have National Register significance for its association with:
A - Events _____ B- Person _____
C- Engineering/architectural character _____

The bridge does not have National Register significance.

Was the bridge constructed in response to significant events in Maryland or local history?

Metal girder bridges were most likely introduced and first popularized in Maryland by the state's major railroads of the nineteenth century including the Baltimore and Susquehanna, its successor the Northern Central, and the Baltimore and Ohio Railroad. Bridge engineering historians have documented the fact that James Milholland (or Mulholland) erected the earliest plate girder span in the United States on the Baltimore and Susquehanna Railroad in 1846 at Bolton Station, near present-day Mount Royal Station. The sides (web) and bottom flange of Milholland's 54-foot-long span were wholly of wrought iron and included a top flange reinforced with a 12x12-inch timber. Plates employed in the bridge were 6 feet deep and 38 inches wide, giving the entire bridge a total weight of some 14 tons. Milholland's pioneering plate girder cost $2,200 (Tyrrell 1911:195). By December 31, 1861, the Northern Central Railroad, which succeeded the Baltimore and Susquehanna, maintained an operating inventory in Maryland of 50 or more bridges described simply as "girder" spans, in addition to a number of Howe trusses. Most of these were probably iron girder bridges; the longest were the 117-foot double-span bridge over Jones Falls and the 106-foot double-span girder bridge at Pierce's Mill (Gunnarson 1990:179-180).

As in the nation, girder bridge technology in Maryland was quickly adapted to cope with the increasingly heavy traffic demands of the twentieth century caused by automobile and truck traffic. The 1899 Maryland Geological Survey report on highways noted that "there are comparatively few I-beam bridges, one of the cheapest and best forms for spans less than 25 or 30 feet" (Johnson 1899:206). Interestingly, the report also urged construction of a composite metal, brick, and concrete bridge, noting that "no method of construction is more durable than the combination of masonry and I-beams, between which are transverse arches of brick, the whole covered with concrete, over which is laid the roadway" (Johnson 1899:206). Whether any such bridges (transitional structures between I-beams and reinforced concrete spans) were built is unknown.

Official state and county highway reports—issued between 1900 and the early 1920s through the Highway Division of the Maryland Geological Survey and its successor, the State Roads Commission—generally do not reference or describe girder construction. An analysis of the current statewide listing of county and municipal bridges (a listing maintained by the State Highway

Administration) reveals that 48 county bridges, out of the total of 141 approximately dated to "1900" by county engineers, were listed as steel girder, steel stringer, or variants of such terms. (It should be noted that the "1900" date is often given when no exact date is pinpointed for a bridge that is clearly old). A grand total of 200 bridges (including "steel culverts"), out of 550 bridges dated on the county list between 1901 and 1930, were described as steel beam, steel girder, or steel stringer and girder varieties. The total suggests that among the various highway bridge types built in the early twentieth century metal girder bridges in Maryland between 1900 and 1930 were second in popularity only to reinforced concrete bridges. However, these numbers must be interpreted with caution, as they do not necessarily include all county and municipal bridges.

When the bridge was built and/or given a major alteration, did it have a significant impact on the growth and development of the area?

There is no evidence that the construction of this bridge had a significant impact on the growth and development of this area.

Is the bridge located in an area which may be eligible for historic designation and would the bridge add to or detract from the historic/visual character of the potential district?

The bridge is located in an area which does not appear to be eligible for historic designation.

Is the bridge a significant example of its type?

A significant example of a metal girder bridge should possess character-defining elements of its type, and be readily recognizable as an historic structure from the perspective of the traveler. The integrity of distinctive features visible from the roadway approach, including parapet walls or railings, is important in structures which are common examples of their type. In addition, the structure must be in excellent condition. This bridge no longer has its original solid panel parapets, which were replaced in 1978 with modern concrete parapets and a pedestrian barrier. Because of this, the integrity of distinctive features visible from the roadway has been significantly altered, making the structure an undistinguished example of a metal girder bridge.

Does the bridge retain integrity of important elements described in Context Addendum?

The bridge retains the character-defining elements of its type, as defined by the Statewide Historic Bridge Context, including rolled longitudinal I-beams and concrete abutments. However, the integrity of historic features visible from the road has been altered. The structure no longer retains its original solid panel parapets, which were replaced in 1978 with modern concrete parapets with pedestrian barriers

Is the bridge a significant example of the work of a manufacturer, designer, and/or engineer?

The bridge is not a significant example of the work of the State Roads Commission.

Should the bridge be given further study before an evaluation of its significance is made?

No further study of this bridge is required to evaluate its significance.

BIBLIOGRAPHY:

County inspection/bridge files _____ **SHA inspection/bridge files** X

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Other (list):

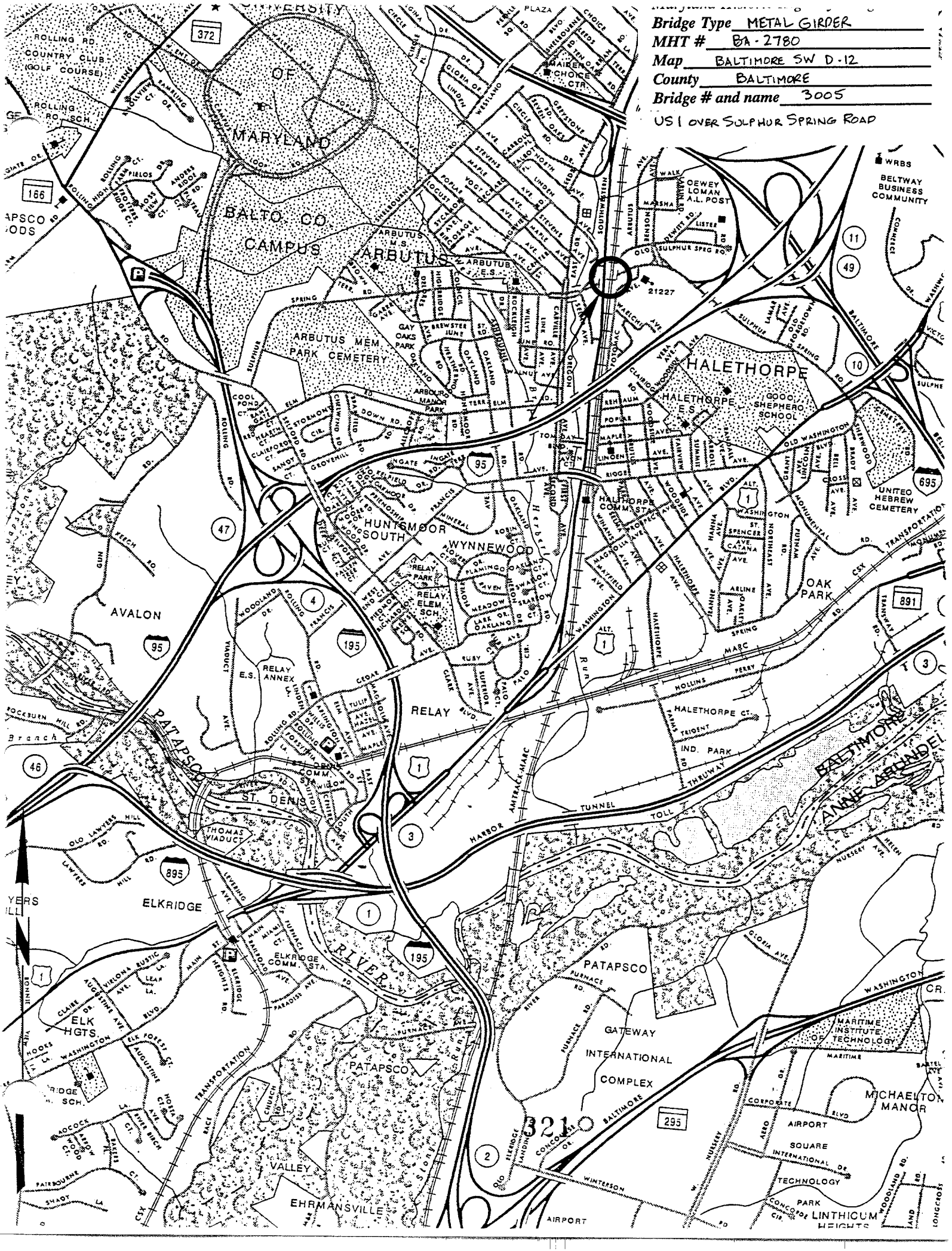
Gunnarson, Robert
1990 *The Story of the Northern Central Railway, From Baltimore to Lake Ontario*. Greenberg Publishing Co., Sykesville, Maryland.

Johnson, Arthur Newhall
1899 The Present Condition of Maryland Highways. In *Report on the Highways of Maryland*. Maryland Geological Survey, The Johns Hopkins University Press, Baltimore.

Tyrrell, Henry G.
1911 *History of Bridge Engineering*. Published by author, Chicago.

SURVEYOR:

Date bridge recorded 2/28/97
Name of surveyor Caroline Hall/Eric F. Griffitts
Organization/Address P.A.C. Spero & Co., 40 W. Chesapeake Avenue, Baltimore, MD 21204
Phone number (410) 296-1685 **FAX number** (410) 296-1670


Bridge Type METAL GIRDER
MHT # BA-2780
Map BALTIMORE SW D-12
County BALTIMORE
Bridge # and name 3005
US 1 OVER SULPHUR SPRING ROAD
UNIVERSITY OF MARYLAND
BALTO. CO. CAMPUS
ARBUTUS
ARBUTUS M.S.
ARBUTUS E.S.
ARBUTUS MEM. PARK CEMETERY
GAY OAKS PARK
ARBOURS MANOR PARK
HALETHORPE
HALETHORPE E.S.
GOOD SHEPHERD SCHOOL
HALETHORPE COMM. STA.
UNITED HEBREW CEMETERY
HUNTSMOOR
SOUTH WYNNEWOOD
AVALON
RELAY
RELAY ANNEX E.S.
RELAY ELEM. SCH.
OAK PARK
PATAPSCO
ST. DENIS
ELKRIDGE
ELKRIDGE COMM. STA.
ELK HGTS.
PATAPSCO RIVER
GATEWAY INTERNATIONAL COMPLEX
MARITIME INSTITUTE OF TECHNOLOGY
MICHAELTON MANOR
AIRPORT SQUARE
LINTHICUM HEIGHTS
EHRMANSVILLE
VALLEY
THOMAS VIADUCT
HARBOR TUNNEL TOLL
BALTIMORE ANNE ARUNDEL
BELTWAY BUSINESS COMMUNITY
WRBS
OEWEY LOMAN A.L. POST
21227
ROLLING RD.
COUNTRY CLUB (GOLF COURSE)
372
166
95
47
4
195
46
1
3
2
895
891
295
11
49
10
695
321

1. BA-2780

2. US1 over Sulpher Spring Rd

3. Baltimore Co, MD

4. Eric Griffitts

5. 3/97

6. MD SHPO

7. north approach

8. 1 of 6

1. BA-8780

2. US1 over Sulphur Spring Rd

3. Balto Co, MD

4. Eric Griffitts

5. 3/97

6. MD SHPO

7. south approach

8. 2 of 6

1. BA-3780

2. USI over Sulphur Spring

3. Bolton Co, MD

4. Eric Griffitts

5. 3/97

6. MD SHPO

7. west elevation

8. 3 of 6

1. BA-2780
2. US 1 over Sulphur Spring Rd.
3. Baltimore County
4. Erie Griffiths
5. 3/97
6. MD SHPO
7. girder detail + north abutment
8. 4 of 6

1. BA-2780
2. US 1 over Sulphur Spring Rd
3. Baltimore County
4. Eric Griffitts
5. 3/97
6. MD SHPO
7. east elevation
8. 5 of 6

1. BA - 2780
2. US 1 over Sulphur Spring Rd
3. Baltimore County
4. Eric Griffitts
5 3/97
6. MD SHPO
7. detail of parapet
8. 6 of 6